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48116 7590 03/20/2009

FAY SHARPE/LUCENT
1228 Euclid Avenue, 5th Floor
The Halle Building
Cleveland, OH 44115-1843

EXAMINER	
HOLLIDAY, JAIME MICHELE	
ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 03/20/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,065	07/31/2003	Asif D. Gandhi	LUTZ 2 00544	2044

TITLE OF INVENTION: METHOD OF CONTROLLING OVERLOAD OVER THE REVERSE LINK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	06/22/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

48116 7590 03/20/2009

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,065	07/31/2003	Asif D. Gandhi	LUTZ 2 00544	2044

TITLE OF INVENTION: METHOD OF CONTROLLING OVERLOAD OVER THE REVERSE LINK

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nonprovisional	NO	$1510	$300	$0	$1810	06/22/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
HOLLIDAY, JAIME MICHELE	2617	455-453000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER	
HOLLIDAY, JAIME MICHELE	
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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 505 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 505 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Notice of Allowability	Application No.	Applicant(s)	
	10/632,065	GANDHI ET AL.	
	Examiner	Art Unit	
	JAIME M. HOLLIDAY	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed 10/13/08*.

2. ☒ The allowed claim(s) is/are *1,5-13,16-21 and 23-25*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Response to Arguments

1. Applicant's arguments, see REMARKS, filed October 13, 2008, with respect to claims 1, 5-13, 16-21 and 23-25 have been fully considered and are persuasive. The U.S.C. 102 (e) rejection of claims 1-3, 9, 12-14, 17 and 21, and the U.S.C. 103 (a) rejection of claims 10, 11, 18 and 23-25 have been withdrawn.

Allowable Subject Matter

2. **Claims 1, 5-13, 16-21 and 23-25** are allowable, and are renumbered **claims 1-19**, respectively.

3. The following is an examiner's statement of reasons for allowance:

Consider **claims 1 and 21**, they are considered statutory process claims according 35 U.S.C. 101 as falling within one of the four statutory categories of invention. Supreme Court precedent[1] and recent Federal Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claim(s) recite a series of steps or acts to be performed, and while the claim(s) do not explicitly recite the means for performing the method steps, the claims(s) qualify as a statutory process,

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

because it is inherent that means must provided to perform the following claimed method steps. The claimed features of measuring energy in a pilot signal over total noise, determining/using *DRC* values, used *Walsh code* space, *received* signal strength indication rise, a *noise floor*, etc. can not be performed mentally.

Consider **claims 1 and 13**, the most relevant prior art of record, Tiedemann, Jr. et al. (5,914,950), fail to specifically show, disclose or suggest computing sector loading by measuring energy in a pilot signal over total noise, DRC values, channel gain and used Walsh code space, and a received signal strength indication rise corresponds with a total received power at a sector, with a noise floor and with at least a first threshold, which varies to minimize adverse control reactions.

Tiedemann, Jr. et al. clearly show and disclose a method of wireless communication [wireless communication system] (method and apparatus for high speed data transmission scheduling; improves utilization of the reverse link and decreases the transmission delay in data communication in a CDMA system by providing for a means of transmitting data traffic at a high speed transmission rate [col. 4 lines 38-44]) comprising: evaluating a reverse link loading (Controller **92** collects the pertinent information from all base stations in the CDMA network and assigns the data transmission rates; controller collects information regarding the demand and capacity for the reverse link [col. 8 line 66- col. 9 line 10]) by examining at least two resources within a first time period (the pertinent information may include the number of scheduled and unscheduled tasks, the transmit power available to each remote station , the queue size indicating the amount of data to be transmitted by each remote station , the E_b /(N_o

$+I_o$) set point and the measured E_b /(N_o $+I_o$) for each remote station at base station **4**, the transmission rate for the unscheduled task for each remote station during the prior scheduling periods, the active member set of each remote station listing the cells with which remote station is in communication, the priority of remote stations , and the total power received at each cell for the prior scheduling period [fig. 7, col. 9 lines 25-41]), wherein the evaluating includes selecting at least a first threshold by which at least a first of the at least two resources is evaluated, based on the examination of at least of the at least two resources (having collected the information from each cell, channel scheduler assigns a maximum (*threshold*) scheduled transmission rate for each scheduled user based on the collected information, the set of aforementioned goals, and the list of system constraints [fig. 8, col. 9 lines 42-46]); wherein the step of examining comprises at least one of: examining the at least two resources in use; and examining the at least two resources leftover (the pertinent information may include the number of scheduled and unscheduled tasks [fig. 7, col. 9 lines 25-41]); wherein the at least two resources examined comprise at least one of a sector loading, total interference, received signal strength indication rise, per-leg and per-call frame error rate, physical channel erasure statistics and distributions, filtered loading estimate, transmit power and power control outer-loop set point compared to received Ecp/Nt (the transmit power available to each remote station , the queue size indicating the amount of data to be transmitted by each remote station , the E_b /(N_o $+I_o$) set point and the measured E_b /(N_o $+I_o$) for each remote station at base station **4**, the transmission rate for the unscheduled task for each remote station during the prior scheduling periods, the

active member set of each remote station listing the cells with which remote station is in communication, the priority of remote stations , and the total power received at each cell for the prior scheduling period [fig. 7, col. 9 lines 25-41]), and broadcasting an availability of resources message in response to the evaluated reverse link loading (channel scheduler sends the scheduling information which contains the maximum scheduled transmission rate to each remote station [fig. 7, fig. 8, col. 9 lines 42-54]).

Tiedemann, Jr. et al., however, lack the claimed limitation "the step of evaluating a reverse link loading comprises computing the sector loading by measuring energy in a pilot signal over total noise, DRC values, channel gain and used Walsh code space; and the received signal strength indication rise corresponds with a total received power at a sector, with a noise floor and with at least the first threshold, which varies to minimize adverse control reactions," therefore this limitation, in conjunction with the other limitations recited in claims 1 and 13, is novel and unobvious in view of Tiedemann, Jr. et al.

Consider **claim 21**, the most relevant prior art of record, Tiedemann, Jr. et al. (5,914,950), fail to specifically show, disclose or suggest computing sector loading by measuring energy in a pilot signal over total noise, DRC values, channel gain and used Walsh code space, and a received signal strength indication rise corresponds with a total received power at a sector, with a noise floor and with at least a first threshold, which varies to minimize adverse control reactions.

Tiedemann, Jr. et al. clearly show and disclose a method of wireless communication over a reverse link (method and apparatus for high speed data

transmission scheduling; improves utilization of the reverse link and decreases the transmission delay in data communication in a CDMA system by providing for a means of transmitting data traffic at a high speed transmission rate [col. 4 lines 38-44]) comprising: determining a loading on the reverse link (Controller **92** collects the pertinent information from all base stations in the CDMA network and assigns the data transmission rates; controller collects information regarding the demand and capacity for the reverse link [col. 8 line 66- col. 9 line 10]), wherein the evaluating includes selecting at least a first threshold by which at least a first of the at least two resources is evaluated, based on the examination of at least of the at least two resources (having collected the information from each cell, channel scheduler assigns a maximum (*threshold*) scheduled transmission rate for each scheduled user based on the collected information, the set of aforementioned goals, and the list of system constraints [fig. 8, col. 9 lines 42-46]); wherein the at least two resources examined comprise at least one of a sector loading, total interference, received signal strength indication rise, per-leg and per-call frame error rate, physical channel erasure statistics and distributions, filtered loading estimate, transmit power and power control outer-loop set point compared to received Ecp/Nt (the pertinent information may include the number of scheduled and unscheduled tasks, the transmit power available to each remote station , the queue size indicating the amount of data to be transmitted by each remote station , the $E_b/(N_o+I_o)$ set point and the measured $E_b/(N_o+I_o)$ for each remote station at base station **4**, the transmission rate for the unscheduled task for each remote station during the prior scheduling periods, the active member set of each remote station listing the

cells with which remote station is in communication, the priority of remote stations , and the total power received at each cell for the prior scheduling period [fig. 7, col. 9 lines 25-41]); managing the reverse link loading in response to the determined reverse link loading by at least one of controlling a traffic channel data rate and controlling a number of active connections (channel scheduler sends the scheduling information which contains the maximum scheduled transmission rate to each remote station; during a scheduling period, if the capacity of the cells does not support data transmission at the maximum scheduled transmission rates, channel scheduler can direct data transmission at lower transmission rates [col. 9 lines 46-48, col. 13 lines 29-32]); and broadcasting an availability of resource message in response to the determined reverse link loading (channel scheduler sends the scheduling information which contains the maximum scheduled transmission rate to each remote station [fig. 7, fig. 8, col. 9 lines 42-54]).

Tiedemann, Jr. et al., however, lack the claimed limitation "the step of evaluating a reverse link loading comprises computing the sector loading by measuring energy in a pilot signal over total noise, DRC values, channel gain and used Walsh code space; and the received signal strength indication rise corresponds with a total received power at a sector, with a noise floor and with at least the first threshold, which varies to minimize adverse control reactions," therefore this limitation, in conjunction with the other limitations recited in claim 21, is novel and unobvious in view of Tiedemann, Jr. et al.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAIME M. HOLLIDAY whose telephone number is (571)272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jaime M Holliday/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617